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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,777	06/01/2001	Bogdan Kosanovic	TI-32882	3090

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EXAMINER

SHAH, NILESH R

ART UNIT PAPER NUMBER

2127

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/871,777

Applicant(s)

KOSANOVIC, BOGDAN

Examiner

Nilesh Shah

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. Claims 1-25 are presented for examination.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 17-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- (a) As per claim 17, "jth instance of the kth" is indefinite because it is not made explicitly clear in the claim language whether or not this term involves a one to one relationship between the function and instance. In addition, it is unclear if k and j are a range, variables or a random number.
- (b) As per claim 9, the term "estimating" is indefinite because it is not made clear if the same estimate is used throughout claim 9 (lines 5 and 9) or a new estimate is used.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertazzi et al (6,370,560) (hereinafter Robertazzi).
6. As per claim 1, Robertazzi teaches a method of allocating a processing resources to functions in a queue waiting to be executed (col. 5 lines 19-25), comprising the steps of:  
determining an amount of the processor resource available to be assigned (col. 3 lines 1-8, col. 6 lines 18-36);  
determining an amount of the resource needed for each function waiting in the queue to execute (col. 6 lines 18-36); and  
allocating the available resource to the functions based on a hierarchical priority scheme (col. 5 lines 51-60). Robertazzi does not specifically teach the use of estimating the amount of the resources needed.  
  
However it is well known to one of ordinary skill in the art that the amount of resources needed can be an estimate. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the option of estimating the amount to

the existing system of Robertazzi because it would increase the accuracy of the amount of resources needed thus improving overall planning of the system and resources.

7. As per claim 2, Robertazzi teaches a method wherein:

the functions are decomposed elements of a more complex process and do not require the same amount of resource to execute (col. 2 lines 52-62).

8. As per claim 3, Robertazzi teaches a method, wherein:

multiple instances of any function within the process may be invoked by the processor to execute concurrently (col.5 lines 10-11).

9. As per claim 4, Robertazzi teaches a method, wherein

each of the functions within the process is assigned a separate priority within the hierarchical priority scheme (col. 5 lines 50-60).

10. As per claim 5, Robertazzi teaches a method, wherein

each instance of each function within the process is assigned a separate priority within the hierarchical priority scheme (col. 5 lines 50-60, col. 5 lines 50-60).

11. As per claim 6, Robertazzi teaches a method, further comprising the steps of:

assigning a resource throttling value to each function waiting in the queue to be executed, wherein the throttling value determines the reduction of the resource allocated to each of the functions (col. 9 lines 10-25).

12. As per claim 7, Robertazzi teaches a method, wherein:

the allocation of the available resource to the functions waiting in the queue is conducted to optimize the amount of the resource assigned to these functions (col. 5 lines 50-60, col. 9 lines 11-25).

13. As per claim 8, Robertazzi teaches a method, wherein:

the allocation of the available resource to the functions waiting in the queue is conducted to optimize a combined number of instances of each function eon currently executed (col. 5 lines 50-60, col. 9 lines 11-25).

14. Claim 9 is rejected based on the same rejection for claim 1 above.

15. As per claim 10, Robertazzi teaches a method,, further comprising the steps of:

comparing the measured amount of the resource used to a high and a low threshold value, setting an alarm if the measured amount of the resource used exceeds the high threshold value (col. 11 lines 55-67); and removing the alarm if the measured amount of the resource used is less than the low threshold value (col. 11 lines 10-27).

16. As per claim 11, Robertazzi teaches a method, further comprising the step of:  
assigning a resource throttling value to each function waiting in the queue to be executed when the alarm is set, wherein the throttling value determines the reduction of the resource allocated to each function (col. 11 lines 10-27).
17. As per claim 12, Robertazzi teaches a method, further comprising the step of:  
reducing the number of instances in which a particular function may execute concurrently when the alarm is set (col. 11 lines 10-27, col. 11 lines 55-67).
18. Claim 13 is rejected based on the same rejection for claim 1 above.
19. Claims 14-16 are rejected based on the same rejection for claim 10-12 above.
20. As per claim 17 Robertazzi teaches a method of allocating a processing resources to functions in a queue waiting to be executed (col. 5 lines 19-25) comprising the steps of:  
determining an amount of the processor resource available to be assigned (col. 5 lines 19-25). Robertazzi does not specifically teach the use of estimating the amount of the resources needed.  
  
However it is well known to one of ordinary skill in the art that the amount of resources needed can be an estimate. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the option of estimating the amount to

the existing system of Robertazzi because it would increase the accuracy of the amount of resources needed thus improving overall planning of the system and resources.

In addition, Robertazzi does not specifically teach the use of a load determining means calculates a product, for each of  $j$  instances of  $k$  functions, assigning a value of either zero or one to a multiplicand associated with the  $j$ th instance of the  $k$ th function; and multiplying the estimated amount of resource needed to support the execution of the  $j$ th instance of the  $k$ th function by its associated multiplicand and assigning the result to the product associated with the  $j$ th instance of the  $k$ th function and said load determining means calculates a sub-total sum, for each of the  $j$  instances, obtained by summing together the products associated with each of the  $k$  functions of the  $j$ th instance.

However, one skilled in the art you realize that this particular limitation is just a summation of all the instances that are applied. It would have been obvious to one of ordinary skill in the art at the time the invention was made to sum together the instances that apply in order to increase the accuracy of the system by knowing the available capacity of the resources.

21. As per claim 18, it is rejected for the same reasons as stated in the rejection of claim 17.

In addition, Robertazzi teaches a hierarchical priority scheme (col. 2 lines 52-62, col. 5 lines 52-58).

Art Unit: 2127

22. As per claim 19, it is rejected for the same reasons as stated in the rejection of claims 17.

In addition, Robertazzi teaches the load determining means occurring for a number of sequential time periods (col.1 lines 33-50).

23. As per claim 20, it is rejected for the same reasons as stated in the rejection of claim 17.

In addition, Robertazzi teaches wherein said load determining means establishes a variable length time period that is no longer than the period needed to execute (col. 2 lines 47-49 and col. 3 lines 9-12).

24. As to claim 21, it is rejected for the same reasons as stated in the rejection of claim 17. In

addition, Robertazzi teaches said prioritization means assigns increasing higher priority in accordance with an increasingly greater number of time period that have passed (col. 2, lines 52-62, col.5 lines 52-58).

25. Claims 22-25 are rejected based on the same rejections as claims 9-12 above.

Art Unit: 2127

*Conclusion*


26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesh Shah whose telephone number is 703-305-8105. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, meng An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah  
Examiner  
Art Unit 2127

NS  
July 19, 2004

  
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